Contents

Section 1: Basic Sciences and Diagnostics

1. **Clinical Anatomy and Physiology of Vitreous and Retina** 3
   Raghav Ravani, Divya Agarwal, Aman Kumar, Yogita Gupta, Rohan Chawla, Atul Kumar

2. **Retinal Imaging** 17
   Atul Kumar, Devesh Kumawat, Divya Agarwal, Raghav Ravani, Kavitha Duraipandi, Anu Sharma

3. **Electrophysiology** 49
   Raghav Ravani, Devesh Kumawat, Priyanka Ramesh, Divya Agarwal, Atul Kumar

4. **Diagnostic Ophthalmic Ultrasonography** 60
   Raghav Ravani, Divya Agarwal, Yogita Gupta, Meghal Gagrani, Atul Kumar

Section 2: Retinal Degenerations and Fundal Dystrophies

5. **Degenerative Myopia and Retina** 73
   Atul Kumar, Rohan Chawla, Devesh Kumawat, Divya Agarwal, Raghav Ravani

6. **Retinitis Pigmentosa and Allied Disorders** 85
   Vinod Kumar, Karthikeya R, Raghav Ravani, Annu Chohan, Prabhav Puri, Aman Kumar, Atul Kumar

7. **Hereditary Vitreoretinopathies** 96
   Vinod Kumar, Neha Goel, Aman Kumar, Divya Agarwal

8. **Macular Dystrophies** 100
   Vinod Kumar, Neha Goel, Karthikeya R, Aman Kumar

9. **Choroidal and Other Fundal Dystrophies** 113
   Vinod Kumar, Aman Kumar, Karthikeya R, Pradeep Kumar

Section 3: Macular Disease and Degeneration

10. **Central Serous Chorioretinopathy** 123
    Mayank Bansal, Aman Kumar, Divya Agarwal, Ashish Markan, Raghav Ravani, Itika Garg, Atul Kumar

11. **Age-related Macular Degeneration** 135
    Atul Kumar, Nawazish Shaikh, Divya Agarwal, Mayank Bansal, Raghav Ravani, Annu Chohan

12. **Choroidal Neovascular Membranes** 164
    Pranita Sahay, Nawazish Shaikh, Shilky Singh, Anand S Brar, Atul Kumar

13. **Vitreomacular Interface and Anomalous Posterior Vitreous Detachment** 179
    Vineet Mutha, Yogita Gupta, Divya Agarwal, Nawazish Shaikh, Atul Kumar

14. **Vitreomacular Traction** 183
    Atul Kumar, Nawazish Shaikh, Vineet Mutha, Meghal Gagrani, Kabiruddin Molla

15. Epiretinal Membranes **189**
Atul Kumar, Nawazish Shaikh, Kavitha Duraipandi, Raghav Ravani, Nasiq Hasan

16. Macular Hole **195**
Atul Kumar, Harpreet Kaur Narde, Raghav Ravani, Manasa S, Aman Kumar, Divya Agarwal, Ankita Srivastava

17. Myopic Foveoschisis **209**
Atul Kumar, Ayushi Sinha, Divya Agarwal, Raghav Ravani, Aditi Mehta, Sriram Simakurthy

18. Optic Nerve Head Pit with Maculopathy **214**
Atul Kumar, Karthikeya R, Raghav Ravani, Ayushi Sinha, Yogita Gupta

19. Submacular Hemorrhage **219**
Atul Kumar, Dheepak Sundar, Raghav Ravani, Ayushi Sinha, Farin Shaikh

20. Cystoid Macular Edema **228**
Pranita Sahay, Raghav Ravani, Ayushi Sinha, Atul Kumar

21. Low Vision Management in Retinal Diseases **234**
Anu Sharma, Ananya Goswami

Section 4: Retinal Vascular Disorders

22. Retinal Arterial Occlusion **251**
Raghav Ravani, Sahil Agrawal, Yogita Gupta, Ananya Goswami, Vineet Mutha

23. Ocular Ischemic Syndrome **257**
Raghav Ravani, Suman Lata, Rohan Chawla, Ananya Goswami, Atul Kumar

24. Retinal Vein Occlusion **261**
Prateek Kakkar, Siddhi Goel, Atul Kumar, Ananya Goswami, Alisha Kishore

25. Hypertensive Retinopathy and Choroidopathy **278**
Vineet Mutha, Raghav Ravani, Yamini Attiku, Ananya Goswami, Chirakshi Dhull

26. Retinal Artery Macroaneurysm **282**
Raghav Ravani, Yogita Gupta, Abhidnya Surve, Ayushi Sinha, Atul Kumar

27. Diabetic Retinopathy: Epidemiology, Pathogenesis, Classification and Clinical Trials **287**
Neha Goel, Vinod Kumar, Ayushi Sinha, Divya Agarwal, Atul Kumar

28. Diabetic Macular Edema **308**
Stanford C Taylor, Cynthia Montana, Manthan Shah, Rajendra S Apte, Ayushi Sinha, Divya Agarwal

29. Proliferative Diabetic Retinopathy **332**
Pramod S Bhende, Nagesha CK, Jaya Prakash V, Ayushi Sinha, Divya Agarwal

30. Retinopathy in Hematological Disorders **345**
Prateek Kakkar, Rohan Chawla, Nasiq Hasan, Amit Gadkar, Ayushi Sinha, Atul Kumar

31. Macular Telangiectasia **355**
Atul Kumar, Pooja Shah, Rohan Chawla, Kalathil Reshmi Shaji, Ayushi Sinha, Raghav Ravani

32. Miscellaneous Retinal Vascular Diseases **363**
Prateek Kakkar, Nawazish Shaikh, Prabhav Puri, Farin Shaikh, Atul Kumar

Section 5: Pediatric Retinal Disease

33. Etiopathogenesis, Clinical Features and Screening of Retinopathy of Prematurity 375
Parijat Chandra, Nitesh Salunkhe, Prabhav Puri, Kalathil Reshmi Shaji

34. Laser Treatment for Retinopathy of Prematurity 384
Mangat R Dogra, Deeksha Katoch, Prabhav Puri

35. Role of Antivascular Endothelial Growth Factor Drugs and Surgical Management of Retinopathy of Prematurity 391
Parijat Chandra, Ruchir Tewari, Prabhav Puri, Kalathil Reshmi Shaji

36. Familial Exudative Vitreoretinopathy 399
Atul Kumar, Dheepak Sundar, Rohan Chawla, Prabhav Puri, Deeksha Rani

37. Coats' Disease 405
Rohan Chawla, Shreyans Jain, Ruchir Tewari, Deeksha Rani, Prabhav Puri

38. Fundus Coloboma 409
Vineet Mutha, Anin Sethi, Prabhav Puri, Deeksha Rani, Atul Kumar

Section 6: Choroidal and Retinal Inflammations

39. Noninfectious Inflammations 419
Reema Bansal, Amod Gupta, Vishali Gupta, Deeksha Rani, Aman Kumar

40. Infectious Inflammation 434
Reema Bansal, Mohit Dogra, Deeksha Rani, Amod Gupta, Aman Kumar

Section 7: Surgical Retina

41. Retinal Detachment 449
Parveen Sen, Sufiyan Shaikh, Sharan Shetty, Ananya Goswami, Kaustubh Deshmukh

42. Basic Principles and Laser Delivery Systems 472
Atul Kumar, Kavitha Duraipandi, Raghav Ravani, Ananya Goswami, Sagnik Sen

43. Scleral Buckling 511
Parveen Sen, Sufiyan Shaikh, Sharan Shetty, Ananya Goswami, Kaustubh Deshmukh

44. Pneumatic Retinopexy 521
Atul Kumar, Devesh Kumawat, Raghav Ravani, Ananya Goswami, Sagnik Sen

45. Vitreous Substitutes 525
Raghav Ravani, Anin Sethi, Ananya Goswami, Atul Kumar, Harpreet Kaur Narde

46. Pars Plana Vitrectomy 536
Atul Kumar, Devesh Kumawat, Kalathil Reshmi Shaji, Raghav Ravani

47. Giant Retinal Tears 544
Atul Kumar, Devesh Kumawat, Kalathil Reshmi Shaji, Nawazish Shaikh, Raghav Ravani, Hemant K Joshi

48. Surgery for Proliferative Diabetic Retinopathy 550
Pramod S Bhende, Atul Kumar, Nawazish Shaikh, Vineet Mutha, Kalathil Reshmi Shaji

49. Complications of Vitreoretinal Surgery 562
Parveen Sen, Sufiyan Shaikh, Sharan Shetty, Kaustubh Deshmukh, Kalathil Reshmi Shaji, Nawazish Shaikh

50. Posterior Dislocation of Lens 571
Devesh Kumawat, Vineet Mutha, Nasiq Hasan, Kalathil Reshmi Shaji, Nawazish Shaikh, Atul Kumar

51. Postoperative Endophthalmitis 578
Chaitra Jayadev, Raghav Ravani, Ayushi Sinha, Atul Kumar

52. Newer Innovations and Techniques in Vitreoretinal Surgery 595
Atul Kumar, Divya Agarwal, Rohan Chawla

Section 8: Ocular Trauma

53. Classification of Ocular Trauma and Evaluation of Patient 607
Thirumalesh MB, Astha Jain, Sumeet Agarwal, Prabhav Puri

54. Blunt Ocular Trauma 613
Thirumalesh MB, Astha Jain, Deeksha Rani, Prabhav Puri, Divya Agarwal, Alisha Kishore

55. Optic Nerve Avulsion 621
Thirumalesh MB, Vineet Mutha, Prabhav Puri, Abhishek Sheemar, Sagnik Sen

56. Sympathetic Ophthalmia 623
Aditya Modi, Neha Pareka Sudhakar, Thirumalesh MB, Aswini Behera, Deeksha Rani, Raghav Ravani, Prabhav Puri

57. Post-traumatic Endophthalmitis 630
Thirumalesh MB, Raghav Ravani, Meghal Gagrani, Alisha Kishore, Deeksha Rani, Prateek Kakkar, Prabhav Puri

58. Retained Intraocular Foreign Body 633
Thirumalesh MB, Vineet Mutha, Prabhav Puri, Divya agarwal, Raghav Ravani, Atul Kumar, Deeksha Rani, Abhidnya Surve

59. Shaken Baby Syndrome 640
Pooja Shah, Raghav Ravani, Amit Gadkar, Prabhav Puri, Deeksha Rani

Section 9: Miscellaneous Retinal Conditions

60. Cancer Associated and Related Autoimmune Retinopathies 645
Ruchir Tewari, Rohan Chawla, Ayushi Sinha, Atul Kumar

61. Toxic Retinopathies 652
Vinod Kumar, Pradeep Kumar, Akshay Tayade, Ayushi Sinha, Ajay Panwar

62. Photic Retinopathy 661
Aditya Modi, Neha Pareka Sudhakar, Ayushi Sinha

63. Phakomatoses 668
Karthikeya R, Shashwat Behera, Alisha Kishore, Ayushi Sinha, Atul Kumar

Index 689